

Testing for the amount of emissions coming from exhaust stacks (aka Stack Testing) is one method by which the Wisconsin Department of Natural Resources (DNR) determines whether a business is meeting applicable air pollution requirements. If you have a large quantity of emissions, you may have to test as often as once every two years. Others may have to perform one-time tests. In either case, there are specific requirements you must follow to perform the stack testing properly and to ensure that DNR will accept the results of the testing.

What Are the Requirements?

DNR has the authority to require each business that has air pollution to measure how much they put into the air. If other methods do not suffice, DNR may require the business to perform a stack test to accurately measure the amount of pollution coming out of each stack. This may be required as part of a construction or operation permit. Contact the Small Business Clean Air Assistance Program (SBCAAP) for fact sheets on the permit requirements.

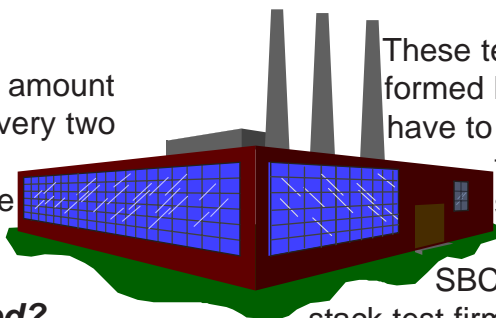
Larger businesses with a certain amount of pollution must perform tests every two years - this is specifically required in chapter NR 439 of the Wisconsin Administrative Code.

Will My Business Be Affected?

Your business may be required to do stack testing if it has been issued an air pollution control permit from the DNR. Also, if there is any question of whether you meet an applicable air pollution limit at your facility, DNR may be in contact with you and can require that you perform a test to see if you can meet the limit. Unless they are a very large source of emissions, most businesses are only required to do a one-time test.

If Affected, What Do I Have To Do To Comply?

There are very detailed requirements in chapter NR 439, Wis. Adm. Code, regarding how a stack test is to be performed. There are also specific methods that must be used for each pollutant. While there are some variations among the tests that are approved for use, they usually consist of three one-hour runs and the final emissions rate is based on an average of the three runs.



These tests are NOT performed by DNR. You will have to hire a consulting firm that performs stack tests.

Contact the SBCAAP for a list of stack test firms as well as the fact sheet with information on how to hire a consultant, with things to look out for and questions to ask. Tests can cost thousands of dollars, so you want to be sure you hire someone who is reputable. If things go wrong, you will have to pay to have the tests run again.

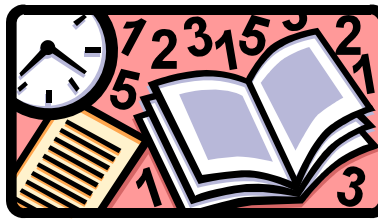
The key elements of a stack test are as follows:

Process Capacity

Any test must be performed at 100% of the capacity of the process for which the emissions are being tested. So if you have an assembly line where solvent based adhesives are applied to parts, you will need to use the parts that have the largest usage of adhesives during the test runs.

Notification

The business must notify DNR of the date the test will be performed, with a minimum of **20 business days** advance notice. This is required to give DNR sufficient time to schedule a staff person to witness the test and approve the results.



Test Plan

When you notify them of the date, you should also provide DNR with the test plan. The stack test firm may prepare this for you, since much of the content relates to the work they will perform. If you have any concerns about the plan provided by a stack test firm, contact your DNR inspector when you are ready to submit it to them and ask if they will have time to review it for completeness.

Your part of the test plan will entail devising a way to measure your throughput. During the test, be sure you measure this accurately from the same start and end times used by the stack test folks as they measure the emissions from your stack. If this is NOT done correctly, you may have to pay to have the tests run all over again.

After the test is complete you will have sufficient information to determine the amount of emissions given off based on a certain amount of throughput of your product. That is what's called an **emission factor**.

Facilities

The business must also provide the needed facilities to allow the stack test firm to safely perform the test method. This may involve installing test

ports on your stack or duct work and building a testing platform next to the stack or duct as well. Test equipment will need electricity, and you will need to arrange to get it to where the equipment is set up - wherever that may be. If these things are not done, you may have to reschedule the test. That will at least cost an extra trip charge from the stack test firm, which can be expensive since they are often located in another state (many good ones are based in WI, IL or MN but it may be they are on the opposite side of the state from you) and have to transport multiple staff and all their equipment.

Test Report

Within **60 days** following completion of the test, **two copies** of a report summarizing the results and including copies of all the test results must be submitted to DNR. Often the stack test firm will also prepare this for you as well since they would be performing any additional analyses and compiling all the results at their lab/office. You will want to have time to review the report before it is sent to the DNR.

Key Items Needed to be Sure You Comply

Here are some other tips to follow to be sure your stack test is in compliance:

- ☐ Maintain your processes in good operating condition. Operating efficiency not only saves you money but often results in lower emissions as well. This may also mean vacuuming out your duct work occasionally if you have very dusty processes, especially before a test is performed. Excess dust may give you higher results than your true emissions.
- ☐ Hire a reputable stack test firm. You don't want to pay **twice**! You could include "DNR approval of test plan" as part of the contract with the test firm to ensure you won't have to pay twice.
- ☐ Submit all required notifications, plans and reports in a timely manner. Any missed deadlines can cause your test to be postponed, even up to the day of the test. If DNR finds out about the test only a day or so ahead, they can contact

you at that point and make you postpone until the full 20 days from that day.

❑ Find a way to test out the air flows from your process to your stack. It is important to be sure everything balances out - what comes in is going out. Some companies have found either ducts that were not going where they were supposed to or that flows were higher coming in than going out through the stack. These problems can postpone a test if found before a test is completed or

can require a re-test if it doesn't show up until the test results report is sent to DNR.

Making sure everything is arranged properly well in advance of the actual stack test day will go a long way to ensuring acceptable test results. If everything about the test itself is done correctly, all you have to do is worry whether your emissions will actually meet the limits.



Contacts for More Information or Assistance.

The Small Business Clean Air Assistance Program helps smaller businesses understand and comply with the Clean Air Act regulations. Contact one of the program's Clean Air Specialists for more assistance: Renée Lesjak Bashel at 608/264-6153 or Tom Coogan at 608/267-9214.



For further information on stack testing contact your DNR Regional or Service Center office shown on the **DNR Contact Fact Sheet** or the DNR's Central office at 608/267-0563.